



MEIGS

Paving Asphalts & Emulsions

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MATERIAL SAFETY DATA SHEET

24 HOUR EMERGENCY ASSISTANCE

CHEMTREC: 800-424-9300 Transport
800-441-3637 Medical

GENERAL MSDS ASSISTANCE

MEIGS: 800-362-1440 General
608-742-1805 FAX

Section 1: PRODUCT IDENTIFICATION

Product Name: Asphalt Cement

Synonyms: AC, Asphalt Binder, Emulsion Base Asphalt, Paving Asphalt, Penetration Graded Asphalt, Performance Graded Asphalt, Petroleum Asphalt, Viscosity Graded Asphalt

Chemical Name: Petroleum Asphalt

Chemical Family: Petroleum Hydrocarbon

Creation Date: March 2, 1998

Revision Date: May 9, 2007

Section 2: COMPOSITION/COMPONENTS

<u>Components</u>	<u>CAS#</u>	<u>%</u>
Petroleum Asphalt	8052-42-4	100
Hydrogen Sulfide	7783-06-4	<1
Polynuclear Aromatic Hydrocarbons (PAHs)	N/A	trace

Composition varies depending on source of crude and specification of final product.

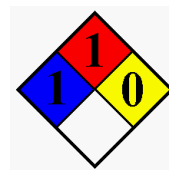
For Exposure Limits, see Section 8.

Section 3: HAZARD RATING/SUMMARY

NFPA Ratings (Scale 0-4) : Health = 1 Fire = 1 Reactivity = 0

Hazard Rating:

- 0 – Least
- 1 – Slight
- 2 –Moderate
- 3 –High
- 4 –Extreme



Emergency Overview:

Hydrogen Sulfide (H₂S) gas may accumulate in the air space above asphalt during storage or transport. Hydrogen Sulfide is harmful or fatal if inhaled.

Heated asphalt can cause thermal burns. Eye protection, as well as protective clothing, should be worn when working with hot asphalt.

Prolonged or repeated contact with asphalt may cause skin irritation or dermatitis. Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to components of this product. May cause photo-irritation (light sensitivity) in some individuals.

There is inadequate evidence that paving asphalts alone are carcinogenic to humans.

Section 4: FIRST AID MEASURES

Inhalation: Fumes may cause headache, blurred vision, nasal and respiratory irritation, nausea, and drowsiness. Remove victim to uncontaminated area. Give artificial respiration if not breathing. Get medical attention.

Skin Contact:

Hot Asphalt Cement: Flush with cool water for at least 15 minutes or completely submerge affected area in ice water. Do not apply ice directly to affected area. Do not attempt to remove the asphalt cement. Removing the asphalt may further damage the tissue. Natural separation will occur in 48 – 72 hours. Get immediate medical attention.

Treatment for shock:

1. Keep victim lying down and quiet.
2. Keep victim covered with a blanket or something similar to keep body temperature at normal, 98°F.
3. Keep victim's head lower than feet to promote blood supply to head and chest.

Cold Asphalt Cement: Clean exposed skin with waterless hand cleaner and then wash with soap and water.

Ingestion: No significant health hazards identified. If large amount is swallowed, get medical attention.

Section 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Asphalt is not a combustible liquid per the Occupational Safety and Health Administration (OSHA) hazard communication standard. However, it will ignite and burn at temperatures above its flash point.

Hydrogen Sulfide (H₂S) gas, which can build up in the air space above the asphalt, can increase the risk of fire. H₂S can react with the iron in an asphalt storage tank to form pyrophoric iron compounds. When exposed to air, these iron compounds are capable of igniting spontaneously.

Extinguishing Media: carbon dioxide, regular dry chemical, regular foam, water;

For large fires, use regular foam or flood area with fine water spray.

CAUTION: Contact of hot asphalt with water leads to violent expansion as the water turns to steam. Evacuate area and fight fire from a safe distance.

Fire Fighting: Avoid inhalation of fumes. Stay upwind and keep out of low areas. Firefighters should wear full-face mask and full protective equipment including a positive pressure self-contained breathing apparatus.

Hazardous Combustion Products:

Combustion may produce CO_x, NO_x, SO_x, irritating vapors and hydrogen sulfide.

Flash Point: >376°F / >191°C

Section 6: ACCIDENTAL RELEASE MEASURES

Keep ignition sources out of the area. Take immediate steps to stop and contain the release. Containment may be safely accomplished with a soil dike. Keep out of waterways and sewers. For small spills, absorb the asphalt with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Notify local authorities and the National Response Center (800)424-8802 if required.

Section 7: HANDLING AND STORAGE

Storage: Store in a well-ventilated area, in an appropriately labeled container. Outside storage is recommended. Avoid storing with strong oxidizers.

Heating coils in storage or transportation vessels must be covered with at least 8" of asphalt.

CAUTION: Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not reuse without adequate precautions.

CAUTION: Vapors containing hydrogen sulfide may accumulate in the air space above asphalt in storage or transportation vessels. Use appropriate respiratory protection to prevent exposure. Do not enter enclosed or confined space without a self-contained breathing apparatus and other protective equipment.

CAUTION: Contact of hot asphalt with water leads to violent expansion as the water turns to steam. Storage or transportation vessels must be dry before filling with hot asphalt.

Handling: Keep away from all ignition sources. Do not smoke in areas where asphalt is being used or stored. Do not eat or drink in areas where asphalt is being used or stored. Use good personal hygiene practices when working with asphalt. When opening covers and outlet caps on storage tanks, use faceshield and gloves to avoid possible injury from pressurized asphalt.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Asphalt (Petroleum) fumes:

0.5 mg/m³ ACGIH 8-hour TWA (inhalable fraction)

5mg/m³ 15-minute REL

Hydrogen Sulfide:

20ppm OSHA ceiling

10ppm ACGIH 8-hour TWA

15ppm ACGIH 15-minute STEL

Respiratory Protection: Protection not required under normal conditions and adequate ventilation. Do not breathe mist or vapor. A positive pressure self contained breathing apparatus should be used whenever entering a confined space, for firefighting, or when the worker's face is to be within three feet of an open hatch.

Skin Protection: Insulated gloves should be worn when handling hot material. Natural fiber long-sleeved shirts and pants without cuffs should be worn. Synthetic fibers can melt and fuse to the skin when in contact with hot asphalt. Rubberized suits or coats may be needed for some maintenance operations with hot asphalt.

Eye Protection: Use goggles and/or face shield when deemed appropriate.

Intermittent or occasional skin contact with cool petroleum asphalt is not expected to have serious health effects as long as good personal hygiene measures, such as those outlined in this material safety data sheet, are followed.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Asphalt is a dark-brown to black cementitious material, solid or semi-solid in consistency, in which the predominating constituents are bitumens which occur in nature as such or are obtained as residua in petroleum refining. It is a mixture of paraffinic and aromatic hydrocarbons and heterocyclic compounds containing sulfur, nitrogen, and oxygen.

The following data are approximate or typical values and should not be used for precise design purposes.

Softening point:	115 - 120°F	Odor threshold:	n/a
Boiling point:	> 700°F	Evaporation rate:	n/a
Auto ignition point	900°F	Viscosity (@ 60°C):	80 – 3600 P
Specific gravity:	0.95 – 1.13	Vapor pressure (@ 25°C	<10 mm Hg
Density:	7.9 – 9.4 lbs/gal	pH:	n/a
Water Solubility:	<0.1%	Volatility:	n/a

Section 10: STABILITY AND REACTIVITY

Asphalt cement is stable at normal temperatures and pressures.

Avoid all sources of ignition around hot asphalt and asphalt vapors.

Incompatible with oxidizing materials such as chlorates, nitrates, and peroxides.

Asphalt will not polymerize.

Section 11: TOXICOLOGICAL INFORMATION

Hydrogen sulfide gas, which may accumulate in the airspace above stored asphalt, is irritating and can be fatal. The "rotten egg" odor of hydrogen sulfide should not be used as a reliable indicator as to the presence of the gas. Odor fatigue readily occurs as exposure to the gas increases. Odor sensation is immediately lost at concentrations greater than 150ppm. At concentrations around 1000ppm, hydrogen sulfide causes rapid death due to metabolic asphyxiation.

Polynuclear Aromatic Hydrocarbons (PAHs) are naturally occurring constituents of crude oils. Since asphalt cement is refined from crude oil, PAHs may be present in trace amounts in the asphalt cement. Repeated or prolonged exposure to some PAHs has been associated with effects to the liver, kidneys, immune system and skin. Some PAHs have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals. However, the measured concentrations, and the frequency of PAHs occurring in paving asphalt, have been low.

The National Institute for Occupational Safety and Health (NIOSH) concludes that there is insufficient evidence for an association between lung cancer and exposure to paving asphalt fumes. No serious health effects are expected as long as good personal hygiene is practiced and safety measures outlined in this MSDS are followed.

Section 12: ECOLOGICAL

There is no potential for food chain concentration or accumulation.

Section 13: DISPOSAL CONSIDERATIONS

This product as supplied and by itself, when discarded or disposed of, is not a Resource Conservation and Recovery Act (RCRA) hazardous waste. It is the responsibility of the user to follow all local, state, and federal regulations applicable to disposal.

Section 14: TRANSPORTATION INFORMATION

US DOT 49 CFR 172.101

Shipping Name: Elevated Temperature Liquid, n.o.s

DOT Identification Number: UN 3257

DOT Classification Number: 9

Packing Group: PG III

Placards Required: HOT, UN 3257

Hot Asphalt Cement must not be transported when heated at or above its flash point.

Section 15: REGULATORY INFORMATION

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):

This product is reportable under 40 CFR Part 302.4 because it contains the following substance(s):

HYDROGEN SULFIDE: 100 lbs RQ

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355):

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA Section 304 (40 CFR Part 355.40):

This product is not regulated under Section 304 of SARA and 40 CFR Part 355.

SARA Title III Section 311/312 Hazardous Categorization (40 CFR Part 370):

ACUTE: Y

CHRONIC: Y

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

SARA Title III Section 313 (40 CFR Part 372):

This product contains the following substance(s), which is on the Toxic Chemicals List in 40 CFR Part 372:

POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs or POLYCYCLIC AROMATIC COMPOUNDS)

STATE REGULATIONS:

California Proposition 65: Y

Known to the state of California to cause the following:

BITUMENS, EXTRACTS OF STEAM-REFINED AND AIR REFINED: Cancer (January 01, 1990)

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